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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,995	02/12/2004	David Malcolm Camm	SMARB11.001AUS	3328

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EXAMINER

WON, BUMSUK

ART UNIT	PAPER NUMBER
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2889

NOTIFICATION DATE	DELIVERY MODE
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05/14/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/777,995	Camm et al.	
	Examiner	Art Unit	
	Bumsuk Won	2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 55, 58 and 60-131 is/are pending in the application.
- 4a) Of the above claim(s) 76-114 and 117-131 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 55, 58, 60-75, 115 and 116 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

The amendment filed on 4/27/2009 has been entered. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

Applicant's arguments with respect to claims 55, 58, 60, 61, 62, 66, 69-71, 75, 115 and 116 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

The indicated allowability of claims 63-65 is withdrawn in view of the newly discovered reference(s) to Azar (US 6,214,034). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 55, 58, 60-62, 66, 71, 115 and 116 are rejected under 35 U.S.C. 102(b) as being anticipated by Grossman (US 4,963,783).

Regarding claim 55, Grossman discloses an apparatus (figure 1) comprising: an electrically insulated flow generator (not specifically referenced in figure 1, the portion that surrounds an inner envelope 2, and column 4, lines 24-29 and 52-56) configured to generate a flow of liquid (column 4, lines 65-67, "the circulating heat transfer medium") along an inside surface of an envelope (column 4, lines 52-56, the examiner interprets 3 being the envelope, and 2 being an inner envelope), wherein the flow generator comprises an electrical conductor (5) and electrical insulation (column 4, line 52 – the flow of liquid is water, thus, in order not to short circuit the conductor from other conductors within the flow generator, it is inferred that the conductor 5 is surrounded by electrical insulation) surrounding the

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conductor; first and second electrodes (6's) configured to generate an electrical arc within the envelope to produce electromagnetic radiation (this apparatus is a lamp, therefore the electrodes create electromagnetic radiation - light); and an electrical connection (5) to the first electrode (6), wherein the electrical connection (5) comprises the conductor (5) of the flow generator, and wherein the electrical insulation surrounds the first electrode (6) and the conductor (5).

Regarding claim 58, Grossman discloses the electrical insulation surrounds the first electrode – cathode and electrical connection thereto (figure 1 shows the insulations 2 and 3 surrounds the electrode and the electrical connection 5).

Regarding claim 60, Grossman discloses the electrical insulation (3) surround the flow generator comprises the envelope (3).

Regarding claim 61, Grossman discloses the electrical insulation (3) surrounding the flow generator comprises an insulative housing (3).

Regarding claim 62, Grossman discloses the insulative housing (3) surrounds at least a portion of the envelope (3).

Regarding claim 66, Grossman discloses the envelope comprises a transparent cylindrical tube (figure 1, column 4, lines 24-39).

Regarding claim 71, Grossman discloses the tube comprises quartz (figure 1, column 4, lines 24-39).

Regarding claim 115, Grossman discloses an apparatus (figure 1) comprising: electrically insulated means (not specifically referenced in figure 1, the portion that surrounds an inner envelope 2, and column 4, lines 24-29 and 52-56) for generating a flow of liquid (column 4, lines 65-67, “the circulating heat transfer medium”) along an inside surface of an envelope (column 4, lines 52-56, the examiner interprets 3 being the envelope, and 2 being an inner envelope), wherein the electrically insulated means (column 4, line 52 – the flow of liquid is water, thus, in order not to short circuit the conductor from other conductors within the flow generator, it is inferred that the conductor 5 is surrounded by electrical insulation) comprises electrical conducting means (5) for generating the flow of liquid (column 4, line 52) and means for electrically insulating the electrically conducting means for generating; means

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for generating electrical arc (6's) within the envelope to produce the electromagnetic radiation (this apparatus is a lamp, therefore the electrodes create electromagnetic radiation - light); and means for conducting electricity (5) to the means for generating (5), wherein the means for conducting (5) comprises the electrically conducting means for generating the flow of liquid (column 4, line 52).

Regarding claim 116, Grossman discloses a method of producing electromagnetic radiation (figure 1), the method comprising: generating a flow of liquid (column 4, lines 65-67) along an inside surface of an envelope (3), using an electrically insulated flow generator (not specifically referenced in figure 1, the portion that surrounds an inner envelope 2, and column 4, lines 24-29 and 52-56) comprising an electrical conductor (5) and an electrical insulation (column 4, line 52 – the flow of liquid is water, thus, in order not to short circuit the conductor from other conductors within the flow generator, it is inferred that the conductor 5 is surrounded by electrical insulation) surround the conductor; and generating an electrical arc between first and second electrodes (6's) to produce the electromagnetic radiation, wherein generating the electrical arc comprises conducting electricity to the first electrode (6) through the conductor (5) of the electrically insulated flow generator.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Azar (US 6,214,034).

Regarding claim 63, Grossman discloses having heat transfer medium, preferably water, being in a space between the insulative housing and the portion of the envelope.

Grossman does not specifically disclose the electrical insulation comprises gas in a space between the insulative housing and the portion of the envelope.

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Azar discloses using either compressed gas or liquid for cooling heat source (column 17, lines 36-52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use compressed gas instead of water for the heat transfer medium in the apparatus disclosed by Grossman, for the purpose of enhancing heat transfer capacity of the heat transfer medium.

Regarding claim 64, Grossman discloses a pair of spaced apart seals (10) cooperating with an inner surface of the insulative housing (3) and an outer surface of the portion of the envelope (2) to seal medium in the space.

Regarding claim 65, Azar discloses the gas is compressed (column 17, lines 36-52). The reason for combining is same as claim 63.

Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Schenck (US 5,753,106).

Regarding claims 67 and 68, Grossman discloses all the claim limitation except for the thickness of the tube.

Schenck discloses an apparatus (figure 1) having for radiation having cylindrical tube (2) made of quartz having a wall thickness of 5 to 100 mm (column 13, lines 37-64), for the purpose of preventing from overheating (column 13, lines 37-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a thickness of a tube being 5 to 100 nm disclosed by Schenck in the apparatus disclosed by Grossman, for the purpose of preventing from overheating.

Claims 69, 70 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman.

Regarding claims 69 and 70, Grossman discloses all the claim limitation except for the tube being a precision bore cylindrical tube with a dimensional tolerance lower than 5×10^{-2} mm.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the tube with a precision bore cylindrical tube with a dimensional tolerance lower than 5×10^{-2} mm in the apparatus disclosed by Grossman, for the purpose of reducing unevenness of the inside diameter of the tube to enhance sealing of the housing and envelope.

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Regarding claim 75, Grossman discloses all the claimed limitation except for the insulative housing comprises at least one of a plastic and a ceramic.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the insulative housing being a ceramic in the apparatus disclosed by Grossman because ceramic is one of the most widely used material for envelopes of discharge lamps, thereby reducing the cost of material.

Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Parfeniuk (US 6,621,199).

Regarding claim 72, Grossman discloses all the claim limitation except for the quartz tube being a pure quartz tube.

Parfenik discloses an apparatus (figures 1) having a tube comprising pure quartz (column 4, lines 42-58), for the purpose of enhancing light emissivity.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have pure quartz tube as disclosed by Parkenik in the apparatus disclosed by Grossman, for the purpose of enhancing light emissivity.

Claim 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Ashely (5,137,659).

Regarding claim 73, Grossman discloses all the claim limitation except for the tube is cerium doped.

Ashely discloses an apparatus in an analogous art using cerium in an housing for radiation emitting device (col 8, lines 16-21), for the purpose of enhancing transparency (col 8, lines 16-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have cerium disclosed by Ashely in the apparatus disclosed by Grossman, for the purpose of enhancing transparency.

Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Kimble (6,465,799).

Regarding claim 74, Grossman discloses all the claim limitation except for the tube is sapphire.

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Kimble discloses an apparatus in an analogous art using sapphire in an housing for radiation emitting device (col 6, lines 11-46), for the purpose of enhancing transparency.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have sapphire disclosed by Kimble in the apparatus disclosed by Grossman, for the purpose of enhancing transparency.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BUMSUK WON whose telephone number is (571)272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. W./
Examiner, Art Unit 2889

/Toan Ton/
Supervisory Patent Examiner
Art Unit 2889